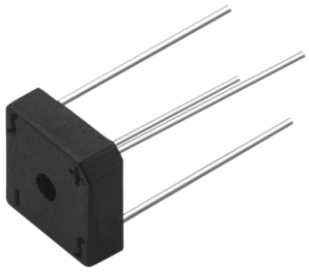
Single Phase Rectifier Bridge, 3 A, 6 A



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FEATURES

- Suitable for printed circuit board or chassis mounting
- Compact construction
- High surge current capability
- Compliant to RoHS directive 2002/95/EC

RoHS COMPLIANT

DESCRIPTION

The KBPC series of single phase rectifier bridge consists of four silicon junctions connected as a full bridge. These devices are intended for general use in industrial and consumer equipment.

PRODUCT SUMMARY	
$I_{O(AV)}$	3.0 A, 6.0 A
V_{RRM}	50 V to 1000 V

MAJOR RATINGS AND CHARACTERISTICS				
SYMBOL	CHARACTERISTICS	KBPC1	KBPC6	UNITS
I_O		3	6	A
I_{FSM}	50 Hz	50	125	A
	60 Hz	55	137	
I^2t	50 Hz	12.5	78	A^2s
	60 Hz	11.4	71	
V_{RRM}	Range	50 to 1000		V
T_J		- 40 to 150		°C

ELECTRICAL SPECIFICATIONS

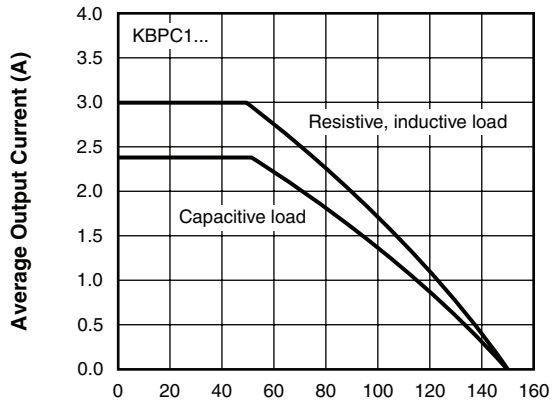
VOLTAGE RATINGS				
PART NUMBER		V_{RRM}, MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V_{RSM}, MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	V_{RMS}, MAXIMUM RECOMMENDED RMS SUPPLY VOLTAGE V
KBPC1005	KBPC6005	50	50	20
KBPC102	KBPC602	200	200	80
KBPC104	KBPC604	400	400	125
KBPC106	KBPC606	600	600	250
KBPC108	KBPC608	800	800	380
KBPC110	KBPC610	1000	1000	500

FORWARD CONDUCTION

PARAMETER	SYMBOL	TEST CONDITIONS		KBPC1	KBPC6	UNITS
Maximum DC output current	I_O	T_C = 50 °C, resistive or inductive load		3.0	6.0	A
		T_C = 50 °C, capacitive load		2.4	4.7	
Maximum peak one cycle, non-repetitive surge current	I_{FSM}	t = 10 ms, 20 ms	Following any rated load condition and with rated V_{RRM} reapplied	50	125	
		t = 8.3 ms, 16.7 ms		55	137	
Maximum I^2t capability for fusing	I^2t	t = 10 ms	Initial $T_J = T_J$ maximum 100 % V_{RRM} reapplied	12.5	78	A^2s
		t = 8.3 ms		11.4	71	
		t = 10 ms		17.7	110	
		t = 8.3 ms		16.1	1000	
Maximum $I^2\sqrt{t}$ capability for fusing	$I^2\sqrt{t}$	t = 0.1 ms to 10 ms, no voltage reapplied		177	1105	$A^2\sqrt{s}$
Maximum peak forward voltage per diode	V_{FM}	I_{FM} = 0.5 x I_O, T_J = 25 °C		1.1	1.2	V
Typical peak reverse leakage per diode	I_{RM}	T_J = 25 °C, 100 % V_{RRM}		10	10	mA
		T_J = 150 °C, 100 % V_{RRM}		1.0	1.0	
Operating frequency range	f			40 to 1000		Hz
Maximum repetitive peak reverse voltage range	V_{RRM}			50 to 1000		V

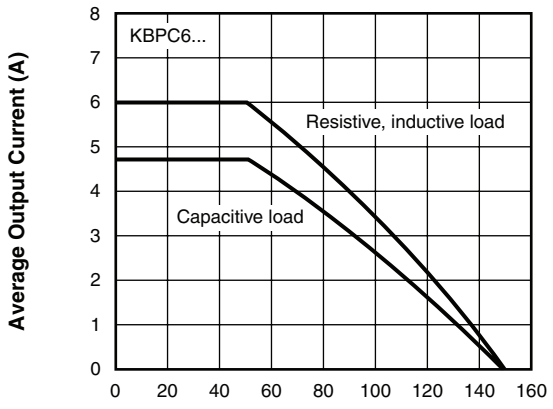
THERMAL AND MECHANICAL SPECIFICATIONS

PARAMETER	SYMBOL	KBPC1	KBPC6	UNITS
Operating and storage temperature range	T_J, T_{Stg}	- 40 to 150		°C
Thermal resistance, junction to case	R_{thJC}	-	-	K/W
Approximate weight		5	6	g
		0.18	0.21	oz.



93585_01 **Maximum Allowable Case Temperature (°C)**

Fig. 1 - Case Temperature Ratings



93585_02 **Maximum Allowable Case Temperature (°C)**

Fig. 2 - Case Temperature Ratings

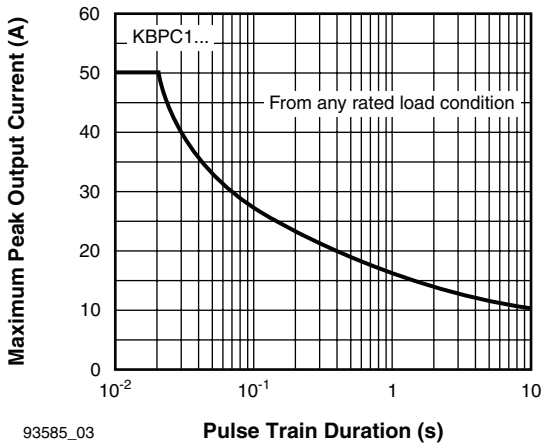


Fig. 3 - Non-Repetitive Surge Ratings

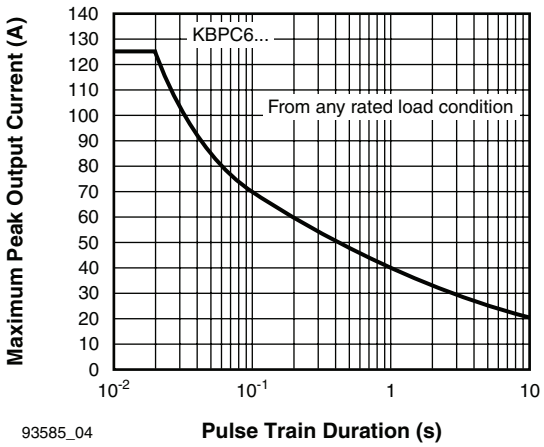
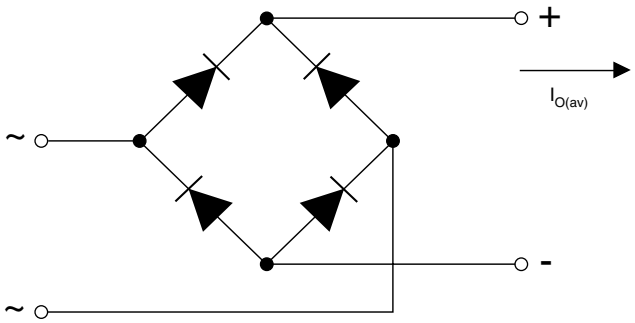


Fig. 4 - Non-Repetitive Surge Ratings

CIRCUIT CONFIGURATION



LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95250

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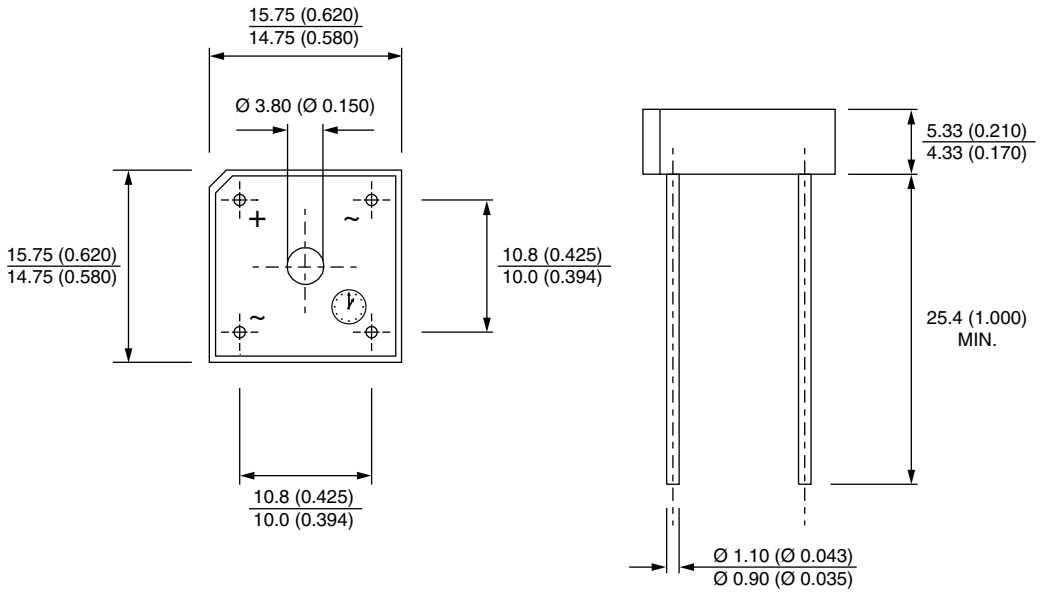
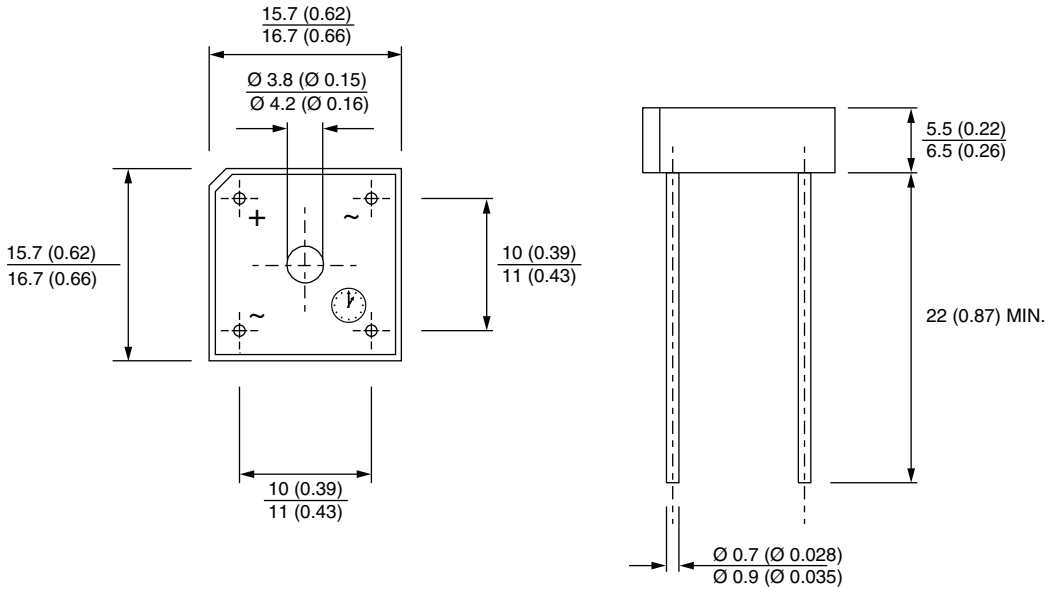
DIMENSIONS in millimeters (inches): **KBPC6**



DIMENSIONS in millimeters (inches): **KBPC1**



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